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David Reed

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12/01/2004

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EXAMINER

NEGRON, ISMAEL

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,433

Applicant(s)

REED, DAVID

Examiner

Ismael Negron

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 29-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-6, 9-26, 29-35 and 38-47 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 36 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20031020</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's preliminary amendment filed on September 7, 2003 has been entered. Claims 1 and 21-23 have been amended. Claims 27 and 28 have been cancelled. Claims 29-47 have been added. Claims 1-16 and 29-47 are still pending in this application, with claims 1, 21 and 31 being independent.

Title

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **Illumination Device Having Acrylic Rod, and Method.**

Specification

3. The disclosure is objected to because of the following informalities: there are two different pages identified as "page 2". The applicant is advised that the second "page 2" has been renumbered as page 3, and pages 3-22 have been renumbered 4-23.

4. The disclosure is objected to because of the following informalities: no brief description of Figure 1C is provided, as required by 37 F.C.R. 1.74.
Appropriate correction is required.

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It is noted that the disclosure includes two brief descriptions for Figure 1A (page 3). It appears that the second brief description (page 3, lines 4) was intended to be directed to Figure 1C; if such is the case, the Examiner suggests amending line 4 to read "*Figure ~~1A~~ 1C is a back side view of the present invention.*"

Claim Objections

5. Claims 7, 8, 36 and 37 are objected to because of the following informalities: claim 7 recites the length of the acrylic rod as being proportional to a desired wavelength and frequency of light, the recitation of both the wavelength and frequency of the light being redundant as, as any particular instant, for a given wavelength of light, there is only one possible value for frequency, and vice versa. Claims 8, 36 and 37 are objected for similar reasons. Appropriate correction is suggested.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 11-13, 19, 40-42 and 46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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7. Claim 11 is indefinite as it is not clear if the limitation "*a circular cylindrical acrylic rod*" defines a rod other than the acrylic rod defined in Claim 1 (line 2), or if it refers back to such previously defined rod. The Applicant is advised that for Prior Art rejections the Examiner assumed the reflective strip to be part of the rod defined in Claim 1. If the Examiner's assumption is correct, Claim 11 (line 3) must be amended to read "*of a diameter of a the ~~circular cylindrical acrylic rod~~.*"

Claims 12, 13 and 40-42 are rejected for the same reasons as Claim 11.

8. Claim 19 recites the limitation "*the mixture of primary color generated by the one or more electrical-to-optical converters*" in lines 3-5. There is insufficient antecedent basis for this limitation in the claim.

It is unclear if the claimed invention includes a multicolor light source capable of producing a mixture of primary colors, and color control means for such light source; or merely the color control means, with the multicolor light source being outside the scope of the invention (as defined by the claim). Claim 46 is rejected for the same reasons as claim 19.

The applicant is advised that for Prior Art rejections the Examiner assumed the multicolor light source to be part of the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-4, 9, 16-18, 21, 22, 24-26, 29, 30-33, 38, 44, 45 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by BACH et al. (U.S. Pat. 6,135,621).

BACH et al. discloses an illumination device having:

- **an acrylic rod (as recited in claims 1 and 31),** Figure 4, reference number 12;
- **the rod being rotatable (as recited in claims 1 and 31),** as evidenced by Figure 4;
- **the rod having a first end (as recited in claims 1 and 31),** Figure 4, reference number 11;
- **the rod having a second end (as recited in claims 1 and 31),** Figure 4, reference number 13;
- **a first circuit board (as recited in claims 1 and 31),** as seen in Figure 4;
- **at least one electrical-to-optical converter to generate photons (as recited in claims 1 and 31),** Figure 4, reference number 14;

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- **the first circuit board including the at least one electrical-to-optical converters (as recited in claims 1 and 31), as seen in Figure 4;**
- **a first end housing (as recited in claims 1 and 31), Figure 4, reference number 24;**
- **the first end housing having a first opening (as recited in claims 1 and 31), as seen in Figure 4;**
- **the first end of the acrylic rod being inserted through the first opening (as recited in claims 1 and 31), column 2, lines 31-35;**
- **the acrylic rod being rotatable within the first end housing (as recited in claims 1 and 31), as evidenced by Figure 4;**
- **the first end housing being used to house the first circuit board (as recited in claims 1 and 31), column 2, lines 31-35;**
- **the first end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in claims 1 and 31), as seen in Figure 4;**
- **the rod being clear (as recited in claims 2 and 32), column 2, lines 9 and 10;**
- **the rod being cylindrical (as recited in claim 3 and 33), column 2, lines 7-9;**

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- **a second circuit board (as recited in claims 4 and 31), as seen in Figure 4;**
- **the second circuit board including the at least one electrical-to-optical converters (as recited in claims 4 and 31), Figure 4, reference number 32;**
- **a second end housing (as recited in claims 4 and 31), Figure 4, reference number 24;**
- **the second end housing having a second opening (as recited in claims 4 and 31), as seen in Figure 4;**
- **the second end of the rod being inserted through the second opening (as recited in claims 4 and 31), column 2, lines 31-35;**
- **the rod being rotatable within the second end housing (as recited in claims 4 and 31), as evidenced by Figure 4;**
- **the second end housing being used to house the second circuit board (as recited in claims 4 and 31), column 2, 31-35;**
- **the second end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in claims 4 and 31), as seen in Figure 4;**
- **a first reflector (as recited in claims 9 and 38), Figure 4, reference number 18;**

- **the first reflector being coupled to the first circuit board (as recited in claims 9 and 38), column 2, lines 15-20;**
- **the first reflector being disposed around the electrical-to-optical converters at a first end (as recited in claims 9 and 38), column 2, lines 15-20;**
- **a second end of the first reflector being aligned with the first opening (as recited in claims 9 and 38), as seen in Figure 4;**
- **the second end of the first reflector receiving the first end of the acrylic rod (as recited in claims 9 and 38), as seen in Figure 4;**
- **the first reflector reflecting photons into the acrylic rod (as recited in claims 9 and 38), column 2, lines 15-20;**
- **the illumination device being mounted a surface (as recited in Claim 16), column 2, lines 37 and 38;**
- **the device being for illuminating an area (as recited in Claim 16), inherent;**
- **an electrical-to-optical controller (as recited in claims 17 and 44), inherent;**
- **the controller being coupled to the first circuit board to control the electrical-to-optical converters (as recited in claims 17 and 44), inherent;**
- **an on/off switch (as recited in claims 17 and 44), inherent;**

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- **the switch being used to switch the generation of photons by the electrical-to-optical converters on and off (as recited in claims 17 and 44), inherent;**
- **an intensity selection switch (as recited in claims 18 and 45), column 1, lines 44-46; and**
- **the selection switch being for varying the brightness of the generated light (as recited in claims 18 and 45), column 1, lines 44-46.**

Method claims 21, 22, 24-26, 29 and 30 were considered inherently disclosed by the patented structure of BACH et al..

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 5, 6, 14, 34, 35 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over BACH et al. (U.S. Pat. 6,135,621).

BACH et al. discloses an illumination device having:

- **an acrylic rod (as recited in claims 1 and 31), Figure 4, reference number 12;**

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- **the rod being rotatable (as recited in claims 1 and 31), as evidenced by Figure 4;**
- **the rod having a first end (as recited in claims 1 and 31), Figure 4, reference number 11;**
- **the rod having a second end (as recited in claims 1 and 31), Figure 4, reference number 13;**
- **a first circuit board (as recited in claims 1 and 31), as seen in Figure 4;**
- **at least one electrical-to-optical converter to generate photons (as recited in claims 1 and 31), Figure 4, reference number 14;**
- **the first circuit board including the at least one electrical-to-optical converters (as recited in claims 1 and 31), as seen in Figure 4;**
- **a first end housing (as recited in claims 1 and 31), Figure 4, reference number 24;**
- **the first end housing having a first opening (as recited in claims 1 and 31), as seen in Figure 4;**
- **the first end of the acrylic rod being inserted through the first opening (as recited in claims 1 and 31), column 2, lines 31-35;**
- **the acrylic rod being rotatable within the first end housing (as recited in claims 1 and 31), as evidenced by Figure 4;**

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- **the first end housing being used to house the first circuit board (as recited in claims 1 and 31), column 2, lines 31-35;**
- **the first end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in claims 1 and 31), as seen in Figure 4;**
- **a second circuit board (as recited in Claim 31), as seen in Figure 4;**
- **the second circuit board including the at least one electrical-to-optical converters (as recited in Claim 31), Figure 4, reference number 32;**
- **a second end housing (as recited in Claim 31), Figure 4, reference number 24;**
- **the second end housing having a second opening (as recited in Claim 31), as seen in Figure 4;**
- **the second end of the rod being inserted through the second opening (as recited in Claim 31), column 2, lines 31-35;**
- **the rod being rotatable within the second end housing (as recited in Claim 31), as evidenced by Figure 4;**
- **the second end housing being used to house the second circuit board (as recited in Claim 31), column 2, 31-35; and**

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- **the second end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in Claim 31), as seen in Figure 4.**

BACH et al. discloses all the limitations of the claims, except:

- the electrical-to-optical converters being light emitting diodes (as recited in claims 5 and 34);
- the light emitting diodes (LED) emitting incoherent light (as recited in claims 6 and 35);
- the light emitted by the LED being dispersed out of the acrylic rod (as recited in claims 6 and 35);
- the photons being coupled to the rod without the use of a fragile glass bulb or filament (as recited in claims 14 and 43).

The examiner takes Official Notice that the use of LEDs is old and well known in the illumination art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute an LED for the light source in the system of BACH et al.. One would have been motivated since LEDs are recognized in the illumination art to have many desirable advantages, including reduced size, high efficiency, low power consumption, long life, resistance to vibrations, and low heat production, over other light sources. In addition, one of ordinary skill in the art at the time the invention was made would have recognized that LED are incoherent light sources.

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11. Claims 10-13 and 39-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over BACH et al. (U.S. Pat. 6,135,621) in view of FREIER et al. (U.S. Pat. 6,123,442).

BACH et al. discloses an illumination device having:

- **an acrylic rod (as recited in claims 1 and 31),** Figure 4, reference number 12;
- **the rod being rotatable (as recited in claims 1 and 31),** as evidenced by Figure 4;
- **the rod having a first end (as recited in claims 1 and 31),** Figure 4, reference number 11;
- **the rod having a second end (as recited in claims 1 and 31),** Figure 4, reference number 13;
- **a first circuit board (as recited in claims 1 and 31),** as seen in Figure 4;
- **at least one electrical-to-optical converter to generate photons (as recited in claims 1 and 31),** Figure 4, reference number 14;
- **the first circuit board including the at least one electrical-to-optical converters (as recited in claims 1 and 31),** as seen in Figure 4;
- **a first end housing (as recited in claims 1 and 31),** Figure 4, reference number 24;

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- **the first end housing having a first opening (as recited in claims 1 and 31), as seen in Figure 4;**
- **the first end of the acrylic rod being inserted through the first opening (as recited in claims 1 and 31), column 2, lines 31-35;**
- **the acrylic rod being rotatable within the first end housing (as recited in claims 1 and 31), as evidenced by Figure 4;**
- **the first end housing being used to house the first circuit board (as recited in claims 1 and 31), column 2, lines 31-35;**
- **the first end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in claims 1 and 31), as seen in Figure 4;**
- **a second circuit board (as recited in Claim 31), as seen in Figure 4;**
- **the second circuit board including the at least one electrical-to-optical converters (as recited in Claim 31), Figure 4, reference number 32;**
- **a second end housing (as recited in Claim 31), Figure 4, reference number 24;**
- **the second end housing having a second opening (as recited in Claim 31), as seen in Figure 4;**

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- **the second end of the rod being inserted through the second opening (as recited in Claim 31), column 2, lines 31-35;**
- **the rod being rotatable within the second end housing (as recited in Claim 31), as evidenced by Figure 4;**
- **the second end housing being used to house the second circuit board (as recited in Claim 31), column 2, 31-35; and**
- **the second end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in Claim 31), as seen in Figure 4.**

BACH et al. discloses all the limitations of the claims, except:

- a reflective strip (as recited in claims 10 and 39);
- the reflective strip being coupled down the length of the rod (as recited in claims 10 and 39);
- the reflective strip being for reflecting photons out of the rod (as recited in claims 10 and 39);
- the reflective strip covering 180° of the diameter of the rod (as recited in claims 11 and 40);
- the reflective strip covering 90° of the diameter of the rod (as recited in claims 12 and 41); and
- the reflective strip covering 45° of the diameter of the rod (as recited in claims 13 and 42).

FREIER et al. discloses a light guide having:

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- **a cylindrical rod**, Figure 1, reference number 120;
- **a reflective strip (as recited in claims 10 and 39)**, Figure 1, reference number 130;
- **the reflective strip being coupled down the length of the rod (as recited in claims 10 and 39)**, as seen in Figure 1;
- **the reflective strip being for reflecting photons out of the rod (as recited in claims 10 and 39)**, column 4, lines 7-11;
- **the reflective strip covering 180° of the diameter of the rod (as recited in claims 11 and 40)**, as seen in Figure 2; and
- **the reflective strip covering 90° of the diameter of the rod (as recited in claims 12 and 41)**, as seen in Figure 2;
- **the reflective strip covering 45° of the diameter of the rod (as recited in claims 13 and 42)**, as seen in Figure 2.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to include the reflective strip of FREIER et al. in the illumination device of BACH et al. to increase the efficiency of the illumination device by being able direct the light out of the rod in a desired direction, as per the teachings of FREIER et al. (see column 4, lines 34-42).

12. Claims 19, 20, 23, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over BACH et al. (U.S. Pat. 6,135,621) in view of STINSON (U.S. Pat. 4,992,704).

BACH et al. discloses an illumination device having:

- **an acrylic rod (as recited in claims 1 and 31), Figure 4, reference number 12;**
- **the rod being rotatable (as recited in claims 1 and 31), as evidenced by Figure 4;**
- **the rod having a first end (as recited in claims 1 and 31), Figure 4, reference number 11;**
- **the rod having a second end (as recited in claims 1 and 31), Figure 4, reference number 13;**
- **a first circuit board (as recited in claims 1 and 31), as seen in Figure 4;**
- **at least one electrical-to-optical converter to generate photons (as recited in claims 1 and 31), Figure 4, reference number 14;**
- **the first circuit board including the at least one electrical-to-optical converters (as recited in claims 1 and 31), as seen in Figure 4;**
- **a first end housing (as recited in claims 1 and 31), Figure 4, reference number 24;**
- **the first end housing having a first opening (as recited in claims 1 and 31), as seen in Figure 4;**
- **the first end of the acrylic rod being inserted through the first opening (as recited in claims 1 and 31), column 2, lines 31-35;**

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- **the acrylic rod being rotatable within the first end housing (as recited in claims 1 and 31), as evidenced by Figure 4;**
- **the first end housing being used to house the first circuit board (as recited in claims 1 and 31), column 2, lines 31-35;**
- **the first end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in claims 1 and 31), as seen in Figure 4;**
- **an electrical-to-optical controller (as recited in claims 17 and 44), inherent;**
- **the controller being coupled to the first circuit board to control the electrical-to-optical converters (as recited in claims 17 and 44), inherent;**
- **an on/off switch (as recited in claims 17 and 44), inherent;**
- **the switch being used to switch the generation of photons by the electrical-to-optical converters on and off (as recited in claims 17 and 44), inherent;**
- **a second circuit board (as recited in Claim 31), as seen in Figure 4;**
- **the second circuit board including the at least one electrical-to-optical converters (as recited in Claim 31), Figure 4, reference number 32;**

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- **a second end housing (as recited in Claim 31), Figure 4, reference number 24;**
- **the second end housing having a second opening (as recited in Claim 31), as seen in Figure 4;**
- **the second end of the rod being inserted through the second opening (as recited in Claim 31), column 2, lines 31-35;**
- **the rod being rotatable within the second end housing (as recited in Claim 31), as evidenced by Figure 4;**
- **the second end housing being used to house the second circuit board (as recited in Claim 31), column 2, 31-35;**
- **the second end housing being used to align the electrical-to-optical converters with the first opening and the first end of the acrylic rod (as recited in Claim 31), as seen in Figure 4;**
- **an intensity selection switch (as recited in Claim 45), column 1, lines 44-46; and**
- **the selection switch being for varying the brightness of the generated light (as recited in Claim 45), column 1, lines 44-46.**

BACH et al. discloses all the limitations of the claims, except:

- **a multi color electrical-to-optical converters (as implied by claims 19 and 46);**

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- the multicolor electrical-to-optical converters being capable of producing a mixture of primary colors (as implied by claims 19 and 46);
- a color selection switch (as recited in claims 19 and 46);
- the color selection switch being for selectively choosing the mixture of primary colors generated by the electrical-to-optical converters to vary the color of the generated light (as recited in claims 19);
- a transformer (as recited in claims 20 and 47);
- the transformer being for transforming AC power to a safe efficient power to power the electrical-to-optical converters of the first circuit board in an efficient manner (as recited in claims 20 and 47).

STINSON discloses an illumination device having:

- **a multi color electrical-to-optical converters (as implied by claims 19 and 46),** Figure 1, reference number 10;
- **the multicolor electrical-to-optical converters being capable of producing a mixture of primary colors (as implied by claims 19 and 46),** column 2, lines 4-10;
- **the multi color electrical-to-optical converter being an LED,** column 2, lines 49-51;
- **a color selection switch (as recited in claims 19 and 46),** inherent;

- **the color selection switch being for selectively choosing the mixture of primary colors generated by the electrical-to-optical converters to vary the color of the generated light (as recited in claims 19), columns 2 and 3, lines 65-68 and 1-4, respectively;**
- **a transformer (as recited in claims 20 and 47), Figure 2, reference number 30;**
- **the transformer being for transforming AC power to a safe efficient power to power the electrical-to-optical converters of the first circuit board in an efficient manner (as recited in claims 20 and 47), column 3, lines 43-47.**

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to use the electrical-to-optical converters and control circuit of STINSON in the illumination device of BACH et al. to provide such device with variable color illumination, as per the teachings of STINSON (see column 2, lines 4-10). In addition, the examiner takes Official Notice that the LEDs are recognized in the illumination art to have many desirable advantages, including reduced size, high efficiency, low power consumption, long life, resistance to vibrations, and low heat production, over other light sources.

Method claim 23 was considered inherently disclosed by the combined teachings of BACH et al. and STINSON.

Relevant Prior Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brown (U.S. Pat. 5,025,352), **Camarota et al.** (U.S. Pat. 5,291,010), **Grady et al.** (U.S. Pat. 6,553,629), **Reed** (U.S. Pat. 6,634,779) and **Hsu** (U.S. Pat. 6,758,588) disclose illumination devices including cylindrical light guide members illuminated by light sources disposed within housings located at the end of the light guide members.

Greenwald (U.S. Pat. 2,443,561), **Dickson** (U.S. Pat. 2,452,294), **Ueda et al.** (U.S. Pat. 5,416,608) and **Sugiyama et al.** (U.S. Pat. 5,982,969) disclose elongated cylindrical light sources partially surrounded by reflective members for directing light in a desired direction.

Mueller et al. (U.S. Pat. Nos. 6,016,038 and 6,150,774) disclose multi-color LED illumination systems capable of producing a variety of different colors.

Allowable Subject Matter

14. Claims 7, 8, 36 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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15. The following is a statement of reasons for the indication of allowable subject matter:

Applicant teaches an illumination device having an acrylic rod rotatably received at the ends by an end housing. The end housing includes a light source for injecting light into the end of the rod. The diameter or length of the acrylic rod is proportional to a desired frequency of light.

No prior art was found teaching individually, or suggesting in combination, all of the features of the applicants' invention, specifically the diameter or length of the acrylic rod being proportional to a desired frequency of light, in combination with the claimed illumination device.

Conclusion

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications maybe obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.


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